

REMARKS

The Examiner's comments together with the cited references have been carefully studied. Favorable reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Claims 1 and 4-16 are presently pending in the application. Claims 2 and 3 have been canceled. Claims 2 and 3 have been canceled. Claims 1 and 16 have been amended.

Applicants herewith file a terminal disclaimer in compliance with 37 CFR 1.321(c) to overcome a provisional double patenting rejection based on a nonstatutory double patenting ground.

Claims 1-4, 6-9, and 11-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (EP 903,246).

In addition, claims 1, 16, and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (EP 903,246) as applied to claim 1 above, and further in view of Chu et al. (6,440,537).

In addition, claims 1, 16, and 5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al. (EP 903246) as applied to claim 1 above, and further in view of Becker (2002/0071019).

The Examiner has stated (per Office Action mailed 06/19/2003) that "...it would have been obvious to one of ordinary skill in the art to make an ink jet recording medium including an antioxidant and other components within the instantly claimed ratios based upon the teachings of the reference...."

The Examiner, in the present Office Action, further stated "...it would have been obvious to include the antioxidant (stabilizer) particles in both layers because it is suggested by the reference. Additionally, there is nothing in the claims to indicate that the base layer absorbs the fluid carrier and the ink-receiving layer holds the dye, each to the exclusion of the other."

These rejections are respectfully traversed. Claim 1 has been amended to clarify the invention and, in particular, to respond to the Examiner's comments, in the present Office Action, concerning the meaning of "base layer." In particular, claim 1 has been amended to recite that the ink jet recording element is imaged, as supported throughout the specification, for example, at page 17, line 17. Claim 1 has further

been amended to recite the thickness of the layers, as supported on page 5, lines 14-20 (base layer) and on page 16, lines 10-11. Claim 1 has still further been amended to recite that the ink is held near the surface as supported on page 16, line 13. Claim 16 has been amended to refer to “means for preventing light fade,” as supported on page 22 (light fade testing). Both the image-receiving layer and the base layer, between the support and the image-receiving layer, have inorganic particles and stabilizer particles for preventing light fade.

As clarified by the amendment to claim 1, the present base layer is not an image-receiving layer. The image-receiving layer is intended to hold the dye. See page 16 of the present specification wherein it is stated that the image-receiving layer preferably can contain a dye-fixing agent. As will be understood by the skilled artisan, the use of surface-charged inorganic particles and the like, for example, such as fumed alumina can obviate the need for polymeric dye-fixing agents. The need is to hold the imaging ink near the coating surface. A base layer is typically used primarily to act as an additional sump for absorption of the solvent for the ink and is not designed to hold the ink. As evident by Applicant’s examples, the composition of the base layer (page 20) is significantly different from the composition of the image-receiving layer (page 21). Moreover, as stated on pages 21-22, the base layer has a dry thickness of 25 μm whereas the image-receiving layer gave a dry thickness of 8 μm . Clearly, in view of the thickness of the layers, Applicants’ base layer is not a second image-receiving layer, since it would not be desirable to have the dye image at a depth of 25 to 70 microns. It is submitted that the skilled artisan would not find it obvious to place the given stabilizer particles in the base layer in addition to the image-receiving layer or layers.

Furthermore, with respect to new independent claim 16, the image-receiving layer “consists essentially” for preventing light fade of stabilizer particles. Such language is believed to exclude UV absorbers since they also are also used to prevent light fade. It is permissible to exclude such additives from the claims. It is further submitted that the presence of the UV absorbers would materially affect the basic and novel characteristics of the invention, since the invention is directed to an improvement in light fade, and the improvement in light fade is clearly a basic and novel characteristic of the invention. Alternatively or additionally, the phrase “means for preventing light fade,” in claim 16 clearly refers to the stabilizer particles in the

specification and equivalents thereof, and UV absorbers are clearly not equivalents by reason of the description, including the examples.

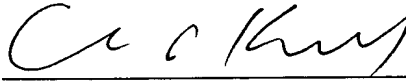
In contrast to the present invention, Kitamura et al. require an ultraviolet ray absorber, but the antioxidant is considered optional. Comparing, in the Kitamura et al. patent, Table 1 (page 16) showing results for image-receiving layers with a UV absorber but no antioxidant (Examples I-1 to I-11) to Table 2 (page 22) showing results for image-receiving layers with both a UV absorber and an antioxidant, it is apparent that the fading rates are somewhat better with the addition of the antioxidant, but that most of the improvement is due to the UV absorber. In contrast, in the present invention, by having the antioxidant in both the image-receiving layer and the base layer, there is a relatively dramatic improvement in fading rates and density loss without any UV absorber. See the present specification for improvements of more than 50% in both Table 1 for ambient light fade, and improvements of around 50% for density loss in both Table 2 and 3. The use in the present invention of stabilizer particles (essentially without UV absorber) in both a base layer and the image-receiving layer, would appear to provide dye fade and dye density improvement that, based on the results in Kitamura et al., is comparable to the use of both stabilizer and UV absorber only in an image receiving layer. Avoiding the amounts of UV absorber used in Kitamura et al. provides a significant advantage, since UV absorbers are somewhat colored species that can degrade and cause discoloration or yellowing.

Regarding the rejection of claims 1, 10, and 16 this rejection is traversed for the reasons stated above with respect to claim 1. The addition of the core-shell particles is a secondary feature of the invention and does not relate to the main purpose of the invention which is to prevent light fade or provide increased image density. Regarding the rejection of claims 1, 5, and 16, the addition of the calendering is a secondary feature of the invention and does not relate to the main purpose of the invention which is to prevent light fade.

Applicants have reviewed the prior art made of record and believe that singly or in any suitable combination, they do not render Applicants' claimed invention unpatentable.

It is believed that the foregoing is a complete response to the Office Action and that the claims are in condition for allowance. Favorable reconsideration and early passage to issue is therefore earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Chris P. Konkol", written over a horizontal line.

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